



USERS MANUAL

**INV10120700 / INV20120700 / INV30120700
INV10121000 / INV20121000 / INV10121500
INV20121500 / INV30121500 / INV10240700 /
INV20240700 / INV10241000 / INV10241500 /
INV20121500**

Pure sine wave inverter



MARINCO
N85W12545 Westbrook Crossing
Menomonee Falls, WI 53051
www.marinco.com

ENGLISH:

PAGE 1

10000006303/03

1



This section provides a brief overview of a basic stand alone installation of the Inverter

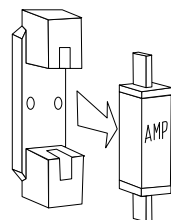
However; please review the entire manual for connection of additional features and to ensure best performance and years of trouble-free operation.



Use isolated tools!
Read safety instructions
(page 3)

2

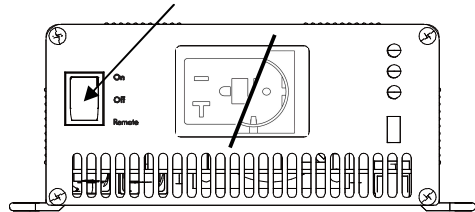
Disconnect the electrical power:



- Switch off all consumers,
- Switch off all charging systems.
- Remove the battery fuse.
- Check with a suitable voltmeter whether the DC installation is voltage free.

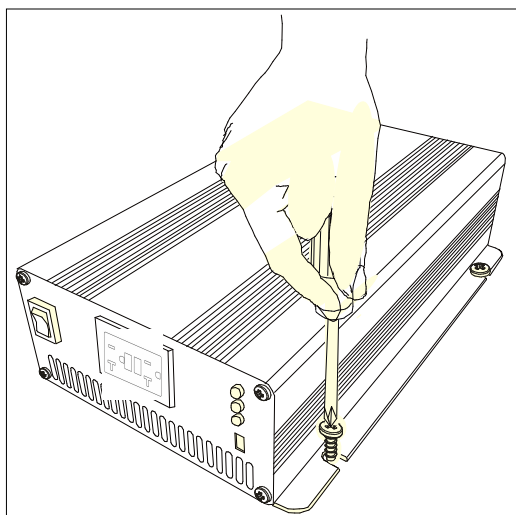
3

Move the main switch of the Inverter to the OFF position



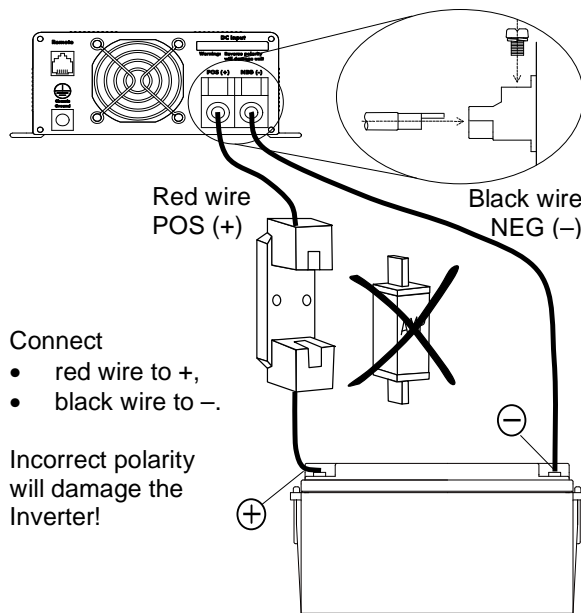
4

Mount the Inverter with four screws to a solid surface. Allow at least 10 cm / 4 inch space around the apparatus!



5

Connect the battery to the DC input. Integrate a fuse holder in the positive battery wire, but do not place the fuse yet.



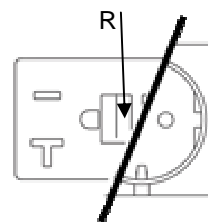
Connect

- red wire to +,
- black wire to -.

Incorrect polarity will damage the Inverter!

6

The AC load can be connected directly to the AC socket.



For safe installation:

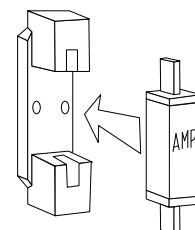
- Connect the chassis ground terminal (for 120V the AC output ground wire) to the central grounding point of the vehicle/ ship.
- If you need to install a Residual Current Device (RCD) in the wiring of the 230V AC output, both the earth (PE/GND) and the neutral (N) of the AC output of the Inverter must be connected to the grounding point.
- 120V AC sockets contain a GFCI per output. To switch on the AC output, push the reset button (reference R).

Refer to local applicable regulations on these issues.

7

Check all wiring. If all wiring is OK:

- Place the inverter fuse.
- Switch on the Inverter.



PRODUCT DESCRIPTION AND APPLICATION

The Maringo inverters convert a DC voltage to a pure AC sine wave voltage.

SAFETY INSTRUCTIONS



WARNING!

Before using the Inverter, read and save the safety instructions

- Use the Inverter following the instructions and specifications stated in this manual.
- Connections and safety features must be executed according to the locally applicable regulations
- Operation of the Inverter without proper grounding may lead to hazardous situations!
- Use DC-cables with an appropriate size. Integrate a fuse in the positive wiring and place it nearby the battery. Refer to the specifications.
- If the positive and negative wires on the DC-input (battery) are exchanged, the Inverter will be damaged. Damage of this kind is not covered by guarantee. Check whether all connections are connected correctly before placing the fuse.
- Do not connect the AC-output of the inverter to an incoming AC source.
- Never connect the Inverter in parallel with any other inverter.
- Never open the housing as high voltages may be present inside!

UNPACKING

The delivery consists of the following parts:

- The inverter
- This user's manual
- Four ring terminals

After unpacking, check the Inverter for possible damage. Do not use the Inverter if it is damaged. If in doubt, contact your supplier.

DIP SWITCH SETTINGS

Under normal circumstances there is no need to change the default settings of the DIP switches: the inverter is immediately ready for use.

See figure 1. On the front side of the inverter four DIP switches (ref. 6) can be found to adjust the inverter in accordance with your personal preferences.

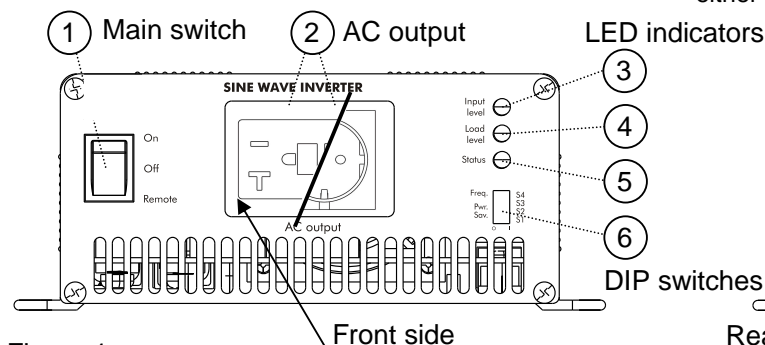
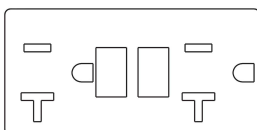


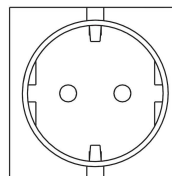
Figure 1

Front side

AC socket 120V:



230V:



To save energy from the battery in no load operation, DIP switches S1, S2 and S3 can be used to adjust the Power Saving Mode. The Power Saving Mode scans the output and when it detects a load which is higher than the selected threshold value, the inverter is switched on automatically.

Power Saving Mode		S1	S2	S3
Model				
700	1000/1500			
DISABLE	DISABLE	0	0	0
15W	20W	1	0	0
30W	40W	0	1	0
40W	55W	1	1	0
56W	75W	0	0	1
70W	95W	1	0	1
84W	115W	0	1	1
100W	135W	1	1	1

DIP switch S4 is used to select the output frequency

Output frequency	S4
50Hz	0
60Hz	1

NEUTRAL GROUNDING IN 120V MODELS

The neutral conductor of the AC output circuit of the Inverter is automatically connected to the safety ground during inverter operation. In accordance with the National Electrical Code requirements that separately derived AC sources (such as inverter and generators) have their neutral conductors tied to ground in the same way that the neutral conductor from the utility is tied to ground at the AC breaker panel. For models configured with a transfer relay, while AC utility power is presenting and the Inverter is in bypass mode, this connection (neutral of the Inverter's AC output to input safety ground) is not present so the utility neutral is only connected to ground at your breaker panel, as required.

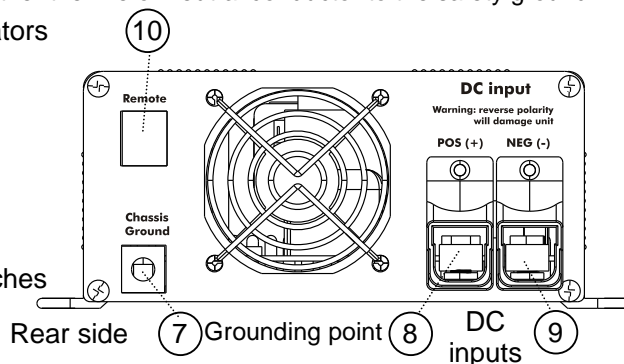


WARNING!

Risk of electronic shock. Use only Pass and Seymour, type 2091-W or 2094-W, ground – fault circuit-interrupter receptacles. Others may fail in operating the inverter when connecting to the inverter's equipment.

NEUTRAL GROUNDING IN 230V MODELS

There is no connection made inverter interior between either the line or neutral conductor to the safety ground.



Rear side

7 Grounding point

8 DC inputs

9

INSTALLATION

Choosing a location to install

- Install the Inverter in a well-ventilated room protected against rain, snow, spray, vapour, bilge, moisture and dust.
- Ambient temperature: $-25 \dots 40^{\circ}\text{C}$ / $-13 \dots 104^{\circ}\text{F}$;
- Never use the Inverter at a location where there is danger of gas or dust explosions
- Mount the Inverter in such a way that obstruction of the airflow through the ventilation openings is prevented. No objects must be located within a distance of 10 cm / 4 inch around the Inverter.
- Do not install the Inverter in the same compartment as the batteries. Do not mount the Inverter straight above the batteries because of possible corrosive sulphur fumes.

Before you start

- Be sure that the output of the supplying source (battery) is switched off during installation. Also be sure that no consumers are connected to the battery during installation, to prevent hazardous situations.
- Before installing the Inverter make sure the main switch (figure 1, ref. 1) is set to the OFF position.
- Check that the battery voltage is the same as the input voltage of the Inverter (e.g. 24V battery for

a 24V input voltage). Also check that the output voltage satisfies loading requirements

- A DC fuse holder must be integrated in the positive wiring. The DC fuse should be placed last of all.
- Use four Ø4.5mm (No. 8) screws to mount the Inverter to a solid surface. See figure 3.

Wiring

- Connect DC wiring as shown in figure 2: the black terminal (9) NEG (–) to the negative (–) pole of the power source / battery, the red terminal (8) POS (+) to the positive (+) pole of the power source/ battery. Integrate a DC fuse holder in the positive wiring, but do not place the fuse yet. Assemble the DC wiring exactly as indicated. Do not place anything between the ring terminal and the terminal surface. Make sure that all DC connections are tight. Recommended torque: 11.7-13 Nm / 104-115 InLbs
- Chassis ground: Use a cable AWG8 / 6 mm² to connect the CHASSIS GROUND terminal (7) to the central ground.
- Remote operation switch (option). If you want to operate the Inverter on a remote location, you can install a switch as indicated in figure 2. When the contact is closed, the Inverter is switched on.

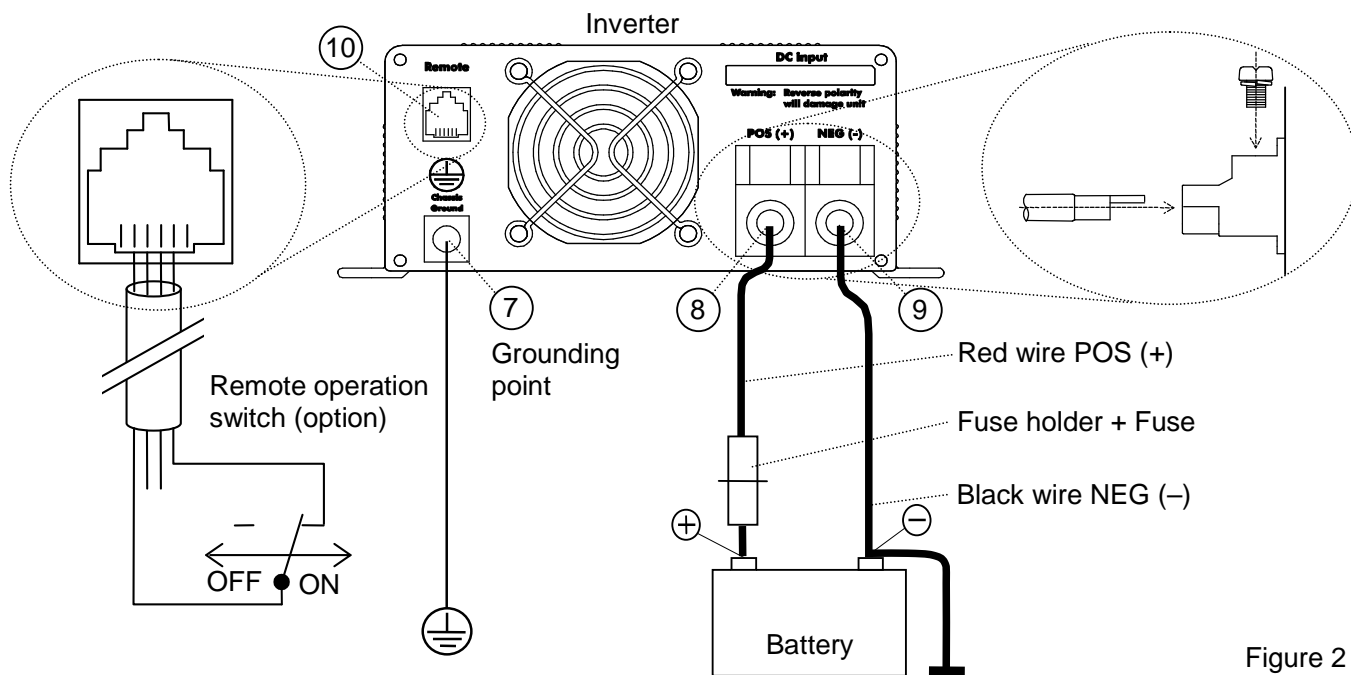


Figure 2

COMMISSIONING AFTER INSTALLATION

1. Check the polarity of the DC-connections. Do not place the DC fuse if the polarity is not correct.
2. Place a DC-fuse (see SPECIFICATIONS) in the fuse holder. When placing this fuse, a spark may occur, caused by internal capacitors of the Inverter. This is normal.
3. AC voltage: the load can be plugged into the AC-output (ref. 2) directly.

OPERATION

Switching on:

Move the main switch (ref. 1) to "ON". The Inverter will start a self-test indicated by two beeps from the buzzer and flashing LED indicators. This may last for approximate two seconds. Finally the buzzer will produce another beep and the Inverter will switch on, indicated by two green LED indicators.. Now the Inverter is ready to supply load connected to the AC-output.

Switching off:

Move the main switch (ref. 1) to the "OFF" position. Note that switching off the Inverter does not break the connection to the batteries!

Remote operation:

The Inverter can be operated on a remote location by means of an optional remote switch. Move the main switch (ref. 1) to the "REMOTE" position. When the remote contact is closed, the Inverter is switched on.

LED indicators

See figure 3. The operation of the inverter is made visible by means of LED indicators (3), (4) and (5).

"INPUT LEVEL" (ref. 3) displays the input voltage of the inverter:

Indication of the LED	Input voltage (V)	
	12V models	24V models
RED blinking slow	10.3~10.6	20.5~21.2
RED	10.6~11.0	21.2~21.8
ORANGE	11.0~12.1	21.8~24.1
GREEN	12.1~14.2	24.1~28.6
ORANGE blinking	14.2~15.0	28.6~30.0
RED blinking fast	> 15.0	> 30.0

"LOAD LEVEL" (ref. 4) shows the output load level:

LED indication	Power level (W)		
Model	700	1000	1500
LED off	0-56	0-80	0-120
GREEN	56-230	80-330	120-495
ORANGE	230-525	330-750	495-1125
RED	525-672	750-960	1125-1450
RED blinking	>672	>960	>1450

"STATUS" (ref. 5) shows the operation mode of the inverter. As long this LED isn't illuminated red, no failure is detected: the inverter is operating normally. If an error occurs, it is detected by the apparatus itself: the "STATUS" LED turns red.

Indication of the LED	Meaning
GREEN, uninterrupted	Power OK
— — — —	Power saving mode, see DIP SWITCH SETTINGS
GREEN, slow blinking	
— — — — — — — —	DC-input voltage too high
RED, fast blinking	
— — — — —	DC-input voltage too low
RED, slow blinking	
-- -- -- -- --	Internal temperature too high
RED, intermittently blinking	
— — — — —	Overload / short circuit
RED, uninterrupted	

Maintenance

No specific maintenance is required. If necessary, use a soft clean cloth to clean the Inverter. Never use any liquids, acids and/or scourers.

Check the wiring on a regular base. Defects such as loose connections, burnt wiring etc. must be corrected immediately.

DECOMMISSIONING

Proceed as follows for decommissioning of the inverter:

1. Move the main switch (ref. 1) to the OFF position.
2. Remove the DC fuse. Be sure that others can not reverse this action taken.
3. Now the inverter can be demounted in a safe way.

TROUBLE SHOOTING

Consult an installer, if you cannot solve the problem by means of the table below.

Problem	Possible cause	What to do?
No output voltage, all LED indicators are off	Main switch (ref 1) is set to the OFF position	Set the main switch (ref 1) in ON position
	Main switch (ref 1) is set to REMOTE but no remote present	Set the main switch (ref 1) in ON position
	The remote switch is off (if applied)	Close the remote operation switch
	Internal GFCI tripped	Press the reset button (ref 6)
	DC fuse blown	Replace the fuse
No output voltage, STATUS LED (ref 5) is slowly blinking green.	Inverter is in power saving mode	Increase the load or adjust the power setting mode; See DIP SWITCH SETTINGS
No output voltage, STATUS LED (ref 5) is fast blinking red.	DC input voltage too high	Check battery voltage; switch off charger. The inverter will switch on again when the input voltage is <14.3 / <28.6 V
No output voltage, STATUS LED is slowly blinking red.	DC input voltage too low (flat battery)	Charge the battery. The inverter will switch on again when the input voltage is >12.5 V / >25.0 V
No output voltage, STATUS LED is intermittently blinking red.	Too much load connected to the inverter	Reduce the load and let the inverter cool down. The inverter will switch on again when the internal temperature is $<45^{\circ}\text{C}$ / 113°F
	Airflow insufficient	Check the airflow through the inverter. The operation of the cooling fan may not be blocked.
No output voltage, STATUS LED is uninterruptedly lit red.	Output overloaded or short circuit.	Reduce the load and/or check the AC wiring for possible short circuits. Then reset the inverter manually by switching the main switch off and on again
Inverter switches on and off. STATUS LED is slowly blinking red.	DC input voltage too low because of voltage drop across the DC cables due to too long or too narrow cables	Reduce the length of the DC cables or use cables with a larger gauge.
	Flat battery	Disconnect the load and recharge the battery
	Loose or corroded connections	Tighten the connections; burnt cables must be corrected immediately.
Some loads like televisions and clocks do not operate correctly	Wrong setting of output frequency	Check the specified input frequency of the load with the output frequency of the Inverter. If necessary, adjust the output frequency. See DIP SWITCH SETTINGS.

GUARANTEE TERMS

Marinco guarantees that this product was built according to the legally applicable standards and stipulations. During production and before delivery all products are exhaustively tested and controlled. If you fail to act in accordance with the regulations, instructions and stipulations in this user's manual, damage can occur and/or the product will not fulfil the specifications. This may mean that the guarantee will become null and void.

The guarantee is limited to the costs of repair and/or replacement of the product by Marinco only. Costs for installation labour or shipping of the defective parts are not covered by this guarantee.

For making an appeal on warranty you can directly contact your supplier, mentioning your complaint, application, date of purchase and part number / serial number.

The standard guarantee period is 2 years.

LIABILITY

Marinco cannot be held liable for:

- Possible errors in this manual and the consequences of these.
- Use that is inconsistent with the purpose of the product.

SPECIFICATIONS

Model Inverter	12/700-120V US	24/700-120V US	12/700-230V Br	12/700-230V EU	24/700-230V EU
Part number:	INV20120700	INV20240700	INV30120700	INV10120700	INV10240700
Function of the apparatus:	Conversion of a DC voltage to a pure AC sine wave voltage				
Supplier:	Marinco				
General					
Input voltage:	12VDC (10.2-15.0VDC)	24VDC (20.3-30.0VDC)	12VDC (10.2-15.0VDC)	12VDC (10.2-15.0VDC)	24VDC (20.3-30.0VDC)
Nom Power Tamb=40°C, cos phi 1	700W	700W	700W	700W	700W
Max. peak load	1400W	1400W	1400W	1400W	1400W
Output waveform	True sinewave (THD <3%)				
Maximum efficiency	89%	91%	91%	91%	93%
Output voltage	120V+/-5%	120V+/-5%	230V ±3%	230V ±3%	230V ±3%
Frequency (selectable)	60Hz ±0.05Hz	60Hz ±0.05Hz	60 Hz ±0.05Hz	50 Hz ±0.05Hz	50 Hz ±0.05Hz
AC outlet	GFCI Schuko / UK / Australia / Universal				
Dimensions (LxWxH)	See chapter Dimensions				
Weight:	2.7 kg / 5.4 Lbs	2.7 kg / 5.4 Lbs	2.7 kg / 5.4 Lbs	2.7 kg / 5.4 Lbs	2.7 kg / 5.4 Lbs
Protection degree	IP21	IP21	IP21	IP21	IP21
Technical					
Technology	HF / Switch mode				
Shut down voltage low battery	10.2V (±0.5V)	20.3V (±0.5V)	10.2V (±0.5V)	10.2V (±0.5V)	20.3V (±0.5V)
Restart voltage low battery	12.7V (±0.5V)	25.2V (±0,5)	12.7V (±0.5V)	12.7V (±0.5V)	25.2V (±0,5)
Shut down voltage high battery	15.3V (±0.5V)	30.6V (±0.5V)	15.3V (±0.5V)	15.3V (±0.5V)	30.6V (±0.5V)
Restart voltage high battery	14.3V (±0.5V)	28.6V (±0.5V)	14.3V (±0.5V)	14.3V (±0.5V)	28.6V (±0.5V)
Maximum allowed ripple on DC	5% RMS				
Input current @ nominal load	64A	32A	64A	64A	32A
External DC fuse required	100A	50A	100A	100A	50A
Recommended battery capacity:	≥100Ah	≥100Ah	≥100Ah	≥100Ah	≥100Ah
DC cable (up to 3m / 10ft)	16mm2 AWG4	16mm2 AWG4	16mm2 AWG4	16mm2 AWG4	16mm2 AWG4
No load power consumption:					
Off mode	0mA	0mA	0mA	0mA	0mA
Power Saving Mode	0.25A	0.15A	0.25A	0.25A	0.15A
ON @ Unom	1.25 A	0.64A	1.20A	1.20A	0.60A
Operating temperature specified (will meet specified tolerances)	Full specifications at ambient temperature 0 to 40°C (32 to 104°F), Derating with 5%/°C (3%/°F) at 40 to 60°C (104 to 140°F), Shutdown at over temperature, auto recover after cooling down				
Practical operating temperature (may not meet specified tolerances)	Ambient temperature -25 to 40°C (-13 to 104°F) Derating with 5%/°C (3%/°F) at 40°C to 60°C (104 to 140°F). Shutdown at over temperature, auto recover after cooling down				
Cooling:	Temperature and load regulated fan				
Non-operating temperature (storage temperature)	Ambient temperature -30°C to 70°C / -22°F to 158°F				
Relative humidity	Protected against humidity and condensing air by conformal coating on both sides of all PCB's. Max 95% relative humidity, non-condensing.				
Safety:	Meet UL458	EN 60950-1			
EMC	FCC class A	EN55022, EN61000-3-2, EN61000-3-3, EN55024			
e-mark	N/A	N/A	N/A	N/A	N/A
Protections:	Overload, short circuit, over / under voltage, over temperature				
Reversed polarity:	Internal fuse, reversed polarity may lead to permanent damage				

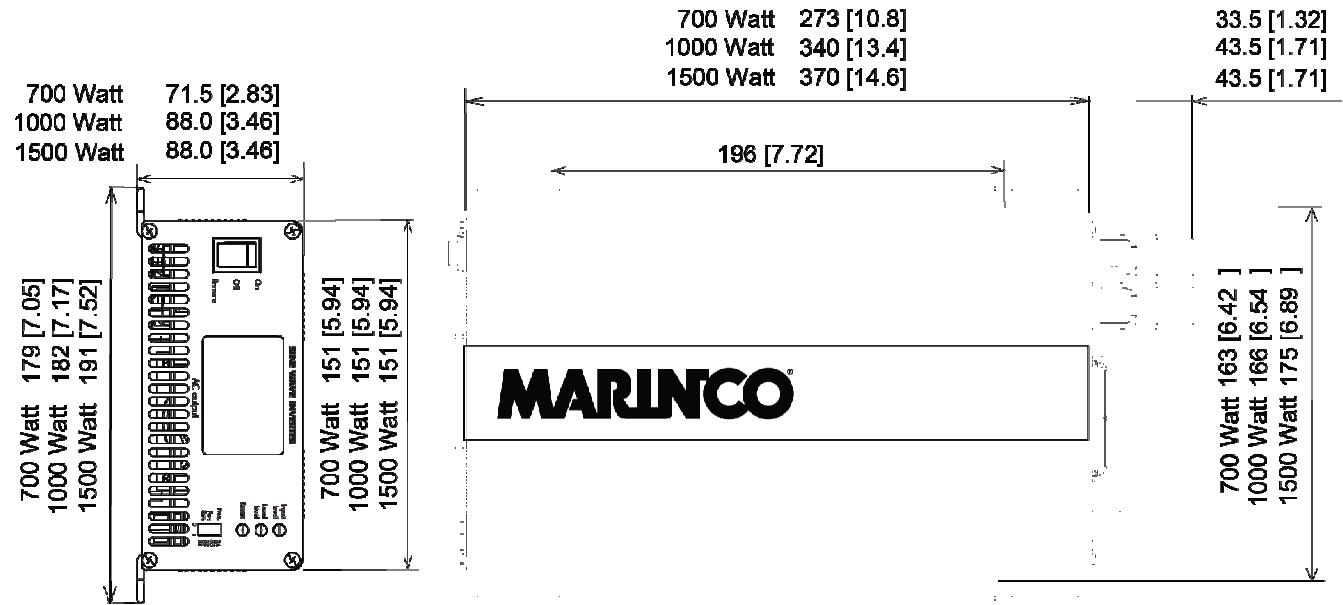
SPECIFICATIONS

Model Inverter	12/1000-120V USA	12/1000-230V EU	24/1000-230V EU
Part number:	INV20121000	INV10121000	INV10241000
Function of the apparatus:	Conversion of a DC voltage to a pure AC sine wave voltage		
Supplier:	Marinco		
General			
Input voltage:	12VDC (10.2-15.0VDC)	12VDC (10.2-15.0VDC)	24VDC (20.3-30.0VDC)
Nom Power Tamb=40°C, cos phi 1	1000W	1000W	1000W
Max. peak load	2000W	2000W	2000W
Output waveform	True sinewave (THD <3%)		
Maximum efficiency	89%	91%	94%
Output voltage	120V+/-5%	230V ±3%	230V ±3%
Frequency (selectable)	60Hz ±0.05Hz	50 Hz ±0.05Hz	50 Hz ±0.05Hz
AC outlet	GFCI	Schuko / UK / Australia / Universal	
Dimensions (LxWxH)	See chapter Dimensions		
Weight:	4.0 kg / 8.8 Lbs	4.0 kg / 8.8 Lbs	4.0 kg / 8.8 Lbs
Protection degree	IP21	IP21	IP21
Technical			
Technology	HF / Switch mode		
Shut down voltage low battery	10.2V (±0.5V)	10.2V (±0.5V)	20.3V (±0.5V)
Restart voltage low battery	12.7V (±0.5V)	12.7V (±0.5V)	25.2V (±0.5V)
Shut down voltage high battery	15.3V (±0.5V)	15.3V (±0.5V)	30.6V (±0.5V)
Restart voltage high battery	14.3V (±0.5V)	14.3V (±0.5V)	28.6V (±0.5V)
Maximum allowed ripple on DC	5% RMS		
Input current @ nominal load	92A	92A	46A
External DC fuse required	100A	100A	50A
Recommended battery capacity:	>100Ah	>100Ah	>100Ah
DC cable (up to 3m / 10ft)	25mm2 AWG4	25mm2 AWG4	25mm2 AWG4
No load power consumption:			
Off mode	0mA	0mA	0mA
Power Saving Mode	0.25A	0.25A	0.15A
ON @ Unom	1.25A	1.20A	0.60A
Operating temperature specified (will meet specified tolerances)	Full specifications at ambient temperature 0 to 40°C (32 to 104°F), Derating with 5%/°C (3%/°F) at 40 to 60°C (104 to 140°F), Shutdown at over temperature, auto recover after cooling down		
Practical operating temperature (may not meet specified tolerances)	Ambient temperature -25 to 40°C (-13 to 104°F) Derating with 5%/°C (3%/°F) at 40°C to 60°C (104 to 140°F). Shutdown at over temperature, auto recover after cooling down		
Cooling:	Temperature and load regulated fan		
Non-operating temperature (storage temperature)	Ambient temperature -30°C to 70°C / -22°F to 158°F		
Relative humidity	Protected against humidity and condensing air by conformal coating on both sides of all PCB's. Max 95% relative humidity, non-condensing.		
Safety:	Meet UL458	EN 60950-1	
EMC	FCC class A	EN55022, EN61000-3-2, EN61000-3-3, EN55024	
e-mark	N/A	N/A	N/A
Protections:	Overload, short circuit, over / under voltage, over temperature		
Reversed polarity:	Internal fuse, reversed polarity may lead to permanent damage		

SPECIFICATIONS

Model Inverter	12/1500-120V US	24/1500-230V Br	12/1500-230V Br	12/1500-230V EU	24/1500-230V EU
Part number:	INV20121500	INV30241500	INV30121500	INV10121500	INV10241500
Function of the apparatus:	Conversion of a DC voltage to a pure AC sine wave voltage				
Supplier:	Marinco				
General					
Input voltage:	12VDC (10.2-15.0VDC)	24VDC (20.3-30.0VDC)	12VDC (10.2-15.0VDC)	12VDC (10.2-15.0VDC)	24VDC (20.3-30.0VDC)
Nom Power Tamb=40°C, cos phi 1	1500W	1500W	1500W	1500W	1500W
Max. peak load	3000W	3000W	3000W	3000W	3000W
Output waveform	True sinewave (THD <3%)				
Maximum efficiency	88%	93%	90%	90%	93%
Output voltage	120V+/-5%	230V+/-3%	230V ±3%	230V ±3%	230V ±3%
Frequency (selectable)	60Hz ±0.05Hz	60Hz ±0.05Hz	60 Hz ±0.05Hz	50/60 Hz ±0.05Hz	50/60 Hz ±0.05Hz
AC outlet	GFCI Schuko / UK / Australia / Universal				
Dimensions (LxWxH)	See chapter Dimensions				
Weight:	4.8 kg / 10.5 Lbs	4.8 kg / 10.5 Lbs	4.8 kg / 10.5 Lbs	4.8 kg / 10.5 Lbs	4.8 kg / 10.5 Lbs
Protection degree	IP21	IP21	IP21	IP21	IP21
Technical					
Technology	HF / Switch mode				
Shut down voltage low battery	10.2V (±0.5V)	20.3V (±0.5V)	10.2V (±0.5V)	10.2V (±0.5V)	20.3V (±0.5V)
Restart voltage low battery	12.7V (±0.5V)	25.2V (±0.5V)	12.7V (±0.5V)	12.7V (±0.5V)	25.2V (±0,5)
Shut down voltage high battery	15.3V (±0.5V)	30.6V (±0.5V)	15.3V (±0.5V)	15.3V (±0.5V)	30.6V (±0.5V)
Restart voltage high battery	14.3V (±0.5V)	28.6V (±0.5V)	14.3V (±0.5V)	14.3V (±0.5V)	28.6V (±0.5V)
Maximum allowed ripple on DC	5% RMS				
Input current @ nominal load	125A	64A	125A	125A	64A
External DC fuse required	150A	100A	150A	150A	100A
Recommended battery capacity:	>150Ah	>150Ah	>150Ah	>150Ah	>150Ah
DC cable (up to 3m / 10ft)	25mm2 AWG4	25mm2 AWG4	25mm2 AWG4	25mm2 AWG4	25mm2 AWG4
No load power consumption:					
Off mode	0mA	0mA	0mA	0mA	0mA
Power Saving Mode	0.25A	0.15A	0.25A	0.25A	0.15A
ON @ Unom	1.25A	0.64A	1.20A	1.20A	0.60A
Operating temperature specified (will meet specified tolerances)	Full specifications at ambient temperature 0 to 40°C (32 to 104°F), Derating with 5%/°C (3%/°F) at 40 to 60°C (104 to 140°F), Shutdown at over temperature, auto recover after cooling down				
Practical operating temperature (may not meet specified tolerances)	Ambient temperature -25 to 40°C (-13 to 104°F) Derating with 5%/°C (3%/°F) at 40°C to 60°C (104 to 140°F). Shutdown at over temperature, auto recover after cooling down				
Cooling:	Temperature and load regulated fan				
Non-operating temperature (storage temperature)	Ambient temperature -30°C to 70°C / -22°F to 158°F				
Relative humidity	Protected against humidity and condensing air by conformal coating on both sides of all PCB's. Max 95% relative humidity, non-condensing.				
Safety:	Meet UL458 EN 60950-1				
EMC	FCC class A EN55022, EN61000-3-2, EN61000-3-3, EN55024				
e-mark	N/A	N/A	N/A	N/A	N/A
Protections:	Overload, short circuit, over / under voltage, over temperature				
Reversed polarity:	Internal fuse, reversed polarity may lead to permanent damage				

DIMENSIONS



EC DECLARATION OF CONFORMITY

Manufacturer: *Marinco*

Address : *Westbrook Crossing Menomonee Falls, WI 5305155 Paul Matthews Rd*



Represented in the EU by: *Mastervolt B.V.*
Address: *Snijdersbergweg 93*
1105 AN Amsterdam
The Netherlands

Herewith declares that products:

INV10120700	12/700-230V EU
INV10240700	24/700-230V EU
INV10121000	12/1000-230V EU
INV10241000	24/1000-230V EU
INV10121500	12/1500-230V EU
INV10241500	24/1500-230V EU

Are in conformity with the provisions of the following EU directives:

- 2004/108/EC (EMC Directive)
- 2006/95/EC (Low Voltage Directive)
- 2011/65/EU (RoHS Directive)

The following harmonised standards have been applied:

Generic emission standard:	EN 55022: 2010
Generic Immunity standard:	EN 55024: 2010
Low voltage standard:	EN 60950-1:2006 + A11:2009 + A1:2010

Amsterdam 19-12-2013,

H.A. Poppelier
Manager New Product Development



MARINCO N85W12545 Westbrook Crossing Menomonee Falls, WI 53051
Phone 800-307-6702 or 262-293-1700; Fax: 262-293-7022 Email: info@Marinco.com